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UNIV COLLEGE STATION DEPT OF MANAGEMENT
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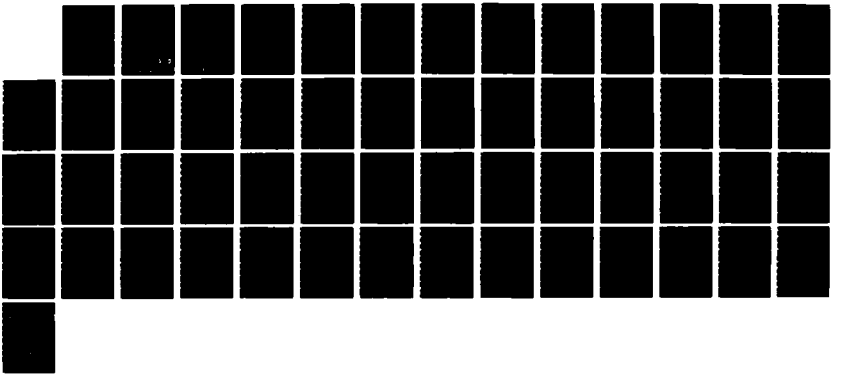

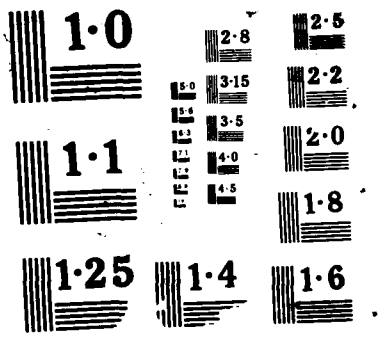
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# Human Resources Research

## DETERMINANTS OF PERSONNEL PRACTICES

Cynthia D. Fisher
and
James B. Shaw

May 1987

TR-ONR-12

Texas A&M University
and
Virginia Polytechnic Institute

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Department of Management
Texas A&M University

Prepared for:
Office of Naval Research
800 N. Quincy Street
Arlington, Virginia 22217

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| REPORT DOCUMENTATION PAGE | | READ INSTRUCTIONS BEFORE COMPLETING FORM |
|---|---|---|
| 1. REPORT NUMBER<br>TR-ONR-12 | 2. GOVT ACCESSION NO. | 3. RECIPIENT'S CATALOG NUMBER |
| 4. TITLE *(and Subtitle)*<br>Determinants of Personnel Practices | | 5. TYPE OF REPORT & PERIOD COVERED<br>Technical Report |
| | | 6. PERFORMING ORG. REPORT NUMBER |
| 7. AUTHOR(s)<br>Cynthia D. Fisher and James B. Shaw | | 8. CONTRACT OR GRANT NUMBER(s)<br>N-00014-85-k-0289 |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS<br>Department of Management<br>Texas A&M<br>College Station, TX 77843 | | 10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS<br>NR-475-036 |
| 11. CONTROLLING OFFICE NAME AND ADDRESS<br>Office of Naval Research<br>Department of the Navy<br>Arlington, VA 22217 | | 12. REPORT DATE<br>May, 1987 |
| | | 13. NUMBER OF PAGES |
| 14. MONITORING AGENCY NAME & ADDRESS*(if different from Controlling Office)* | | 15. SECURITY CLASS. *(of this report)*<br>Unclassified |
| | | 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE |

16. DISTRIBUTION STATEMENT *(of this Report)*

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

18. SUPPLEMENTARY NOTES

Supported by the Office of Naval Research Manpower R&D Program

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Personnel policy, personnel practices, internal labor markets.

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

There has been relatively little research aimed at identifying the factors which are associated with the use of sophisticated and bureaucratic personnel management methods as opposed to casual and informal methods. Existing theory and research suggest that organization, establishment size, technology, extent of unionization, and the existence of a predesignated personnel department may be among the causal factors.

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The relative impact of these factors on the sophistication of recruiting, selection, compensation and performance appraisal was assessed in a sample of 174 establishments.



## Determinants of Personnel Practices

Milkovich (1984) has pointed that we know very little about the factors which affect the type of personnel practices adopted by different organizations. There has been relatively little research aimed at identifying factors which are associated with the use of formal, rational, or bureaucratic methods as opposed to casual and informal methods of personnel management.

Dimick and Murray (1978, pg 612) suggest that personnel management practices "should be consistent with the implicit demands of size, technology and environmental influences". If macro factors such as these do affect human resource management practices, then there should be some consistency of practices across jobs within an establishment, as these factors will be constant for all jobs in the establishment. Cohen and Pfeffer (1986) have found that this is true in the case of hiring standards and practices. Strong and significant correlations were found between the use of tests, educational standards and maximum age limits in hiring across eight different occupational categories. This consistency is somewhat surprising in view of the conventional wisdom which holds that job demands, not establishment level factors, should be the major influence on hiring standards and practices.

This paper will attempt to replicate Cohen and Pfeffer's findings regarding selection, as well as extend the analysis to a number of other personnel practices. Following the argument that macro level variables affect personnel practices, it is expected that establishments which recruit widely, select carefully, provide many types of training, utilize a formal job evaluation system, or require regular performance appraisals for one category of jobs will also be likely to use the same practice for other categories of jobs.

Hypothesis 1: Personnel practices will be similar across job categories within establishments.

If organizational or establishment level factors do help to create consistency in personnel practices <u>across jobs</u>, it is also possible that they will cause some consistency in the level of sophistication <u>across practices</u>. That is, establishments which are relatively advanced in one area of personnel management are probably similarly advanced in others. An establishment which uses a wide variety of recruiting methods might also tend to use many selection tools, to provide more types of training, to use formal job evaluation and performance appraisal, to have written job descriptions and a written human resources management philosophy, and to have a well developed internal labor market.

Hypothesis 2: The sophistication of personnel practices will be similar across areas of personnel management within establishments.

There are numerous reasons why sophisticated or "textbook" practices might be expected to co-occur across jobs and across personnel management areas. These include organizational and establishment level factors which are common to most or all jobs categories within the establishment. Five of these will be discussed in turn below.

Headquarters. When an organization has more than one establishment, some personnel practices may be centrally mandated in order to achieve standardization and equity across sites. Practices may be more sophisticated when the resources of a corporate personnel unit are brought to bear. Pfeffer and Cohen (1984; Cohen and Pfeffer, 1986) have verified that branch establishments are more likely to have internal labor markets and to be highly selective than are single site organizations.

Perhaps of equal importance to having guidance from a corporate personnel office would be the location and culture of that office, and hence the type of practices which it is promulgating. Much has been written of late on Asian and specifically Japanese human resources management practices (c.f. Okada, 1984; Smith, 1984) and how they differ from

sophisticated selection procedures, provide training for employees, have formal systems for performance appraisal and promotion, and use formal methods of job evaluation, than smaller organizations.

The institutional approach pioneered by Meyer and Rowen (1977) also suggests that large organizations are likely to use sophisticated or "textbook" personnel practices. This approach holds that many practices are adopted because they are widely accepted (institutionalized) as the proper and rational way to manage. Firms may adopt institutionalized practices in order to appear legitimate by following the proper form, whether or not the substance of the practice is well suited to the organization's needs. Large firms are more visible to the public and thus may feel more need to appear legitimate by complying with accepted practices (Cohen and Pfeffer, 1986).

The empirical evidence on how size affects personnel practices is somewhat mixed. Baron, Dobbin, and Jennings (1986) studied the spread of bureaucratic personnel practices across industries from 1927 to 1946. They reported positive correlations between the use of bureaucratic personnel practices and average firm size across industries, but noted that many large firms did not adopt these practices. Further, the relationships weakened from 1935 to 1939 to 1946. They suggested, following

Tolbert & Zucker's (1983) work, that once bureaucratic practices became institutionalized, need (in this case the imperative of size) was no longer a strong predictor of adoption. They concluded that large size does not entirely necessitate the adoption of bureaucratic personnel practices, nor does small size preclude it.

Pfeffer and Cohen (1984) and Cohen and Pfeffer (1986) reported that establishment size was related to the existence of internal labor markets and high selection standards, but that the relationships disappeared after controlling for more immediate determinants of personnel practices such as technological change, the existence of a personnel department, and extent of unionization. Finally, Dimick and Murray (1978) found that size was related to the sophistication of recruiting, selection, and performance appraisal practices and the range of training provided (r's .41 to .67). However, they also found that organizational slack (average five year profits with size partialled out) had very similar relationships to practices. They concluded that size does not necessitate formal practices so much as make them cost effective. In larger organizations, the cost of validating a selection test or designing a training program can be spread over many more employees. Thus, large firms and/or those with plenty of slack can <u>afford</u> to implement sophisticated personnel practices.

Hypothesis 4: Establishment size will be positively related to the sophistication of personnel management practices.

Technology. There seem to be logical links between technology and some personnel practices. For instance, a rapid rate of technological change should necessitate more organizationally sponsored training. It may also mean that specialized skills are required, so that a wide range of recruiting methods is needed. Rather than advertising in a daily paper, establishments facing a high rate of technological change may need to advertise in professional publications, use search firms, recruit on campuses, solicit employee referrals, and the like, in order to locate appropriately skilled applicants. Such individuals, once carefully screened, hired, and trained, may require a more sophisticated appraisal and feedback system to keep their performance on track.

Pfeffer and Cohen (1984) have argued that technological change requires employees to develop firm-specific skills, and brings about internal labor markets to encourage these skilled employees to remain in the organization. Cohen and Pfeffer (1986) suggested that technological change would be associated with greater selectivity and increased educational standards for hiring. These propositions

received support in their sample of firms in the San Francisco Bay area. However, Dimick and Murray (1978) also measured technological change and technical complexity in their sample of Canadian firms, and found that neither technology measure was related to the occurence of any personnel practice. Note that their sample contained only 20 companies, so power was quite low.

Hypothesis 5: Rate of technological change will be positively related to the sophistication of personnel practices.

Unionization. Indisputably, one of the main goals of unions is to influence personnel management practices, most particularly in the areas of job security, promotion and compensation. However, the evidence on the actual impact which unions have had on some personnel management practices is not clear. Management, in trying to forestall unionization, has often instituted rational personnel practices to pre-emptively guarantee fair treatment of workers (Baron et al., 1986; Jacoby, 1985; Kochan, 1984). On the other hand, when unions are formed, they seek these types of systems as well. Pfeffer and Cohen (1984) had predicted a positive relationship between percent of unionization and the existence of internal labor markets on the assumption that unions would press for seniority-based promotion systems. Instead they found a significant negative relationship and concluded that internal labor

markets may be effective in preventing unionization, or that internal labor markets and unions may be interchangeable, in that they both perform the function of binding employees to the organization and reducing turnover.

In the area of compensation, unions have had a clear impact on the amount received, but their influence on other aspects of the compensation process is less clear (Freeman and Medoff, 1984). Glueck (1974) suggested that organizations with unions would be more likely to have formal job evaluation systems. This makes sense, as unions are likely to scrutinize pay structures and object to any differentials which cannot be rationally defended. On the other hand, Baron et al. (1986) found a strong negative relationship between AFL unionization and the use of job evaluation across industries in the 1940's.

Given their usual values for solidarity, similarity of treatment, and seniority, it would seem logical to suggest that unions would resist performance appraisal systems and merit or productivity incentive payment systems. In fact, Freeman and Medoff (1984) report that single rates and automatic progression systems are twice as common among unionized as non-unionized workers. Individually based systems such as merit pay are rare among unionized workers (4%) and relatively more common among non-unionized workers (27%).

Selection is an area in which management seldom tolerates explicit union interference. However, Cohen and Pfeffer (1986) found that unionization was consistently and negatively related to all of their selectivity measures, while Dimick and Murray (1978) found that unionization was negatively related to the sophistication of both recruiting and selecting practices. To some extent, these results may be due to the types of jobs which tend to be unionized--less skilled and lower level occupations, which would naturally have more simple selection requirements. Nevertheless, the negative impact of unions in Dimick and Murray's study continued to be observed after controlling for the percent of employees who were male, who were production workers, and who did not complete high school. Finally, unionization should be positively related to the use of formal written job descriptions, given the union penchant for work rules and distinct craft lines.

Hypothesis 6: Unionization will be positively related to the use of written job descriptions and negatively related to the use of performance appraisal, merit pay, productivity incentives, and sophisticated recruiting and selection procedures.

Unions may also affect job evaluation and internal labor market practices, but the direction of these effects cannot be predicted unambiguously.

Existence of a Personnel Department. As pointed out by Pfeffer and Cohen (1984), having a personnel department might be related to the sophistication of personnel practices for three reasons. First, a formal, professionalized personnel department and textbook personnel practices might co-occur in organizations making a particular effort to appear legitimate. Legitimacy can be attained by adopting both institutionalized practices and an institutionalized structure (personnel department). Thus, the two could be related only because of this common cause. Second, formal personnel departments could develop because they are needed to implement and administer the sophisticated practices dictated by size, technology, unionization, and the like. Finally, formal personnel departments, regardless of why they were first created, could function as a political force in organizations. Personnel professionals may lobby for more sophisticated practices both because they are trained to believe in the efficacy such practices, and to increase their importance and influence in the organization. Empirically, the existence of a designated personnel department has been found to correlate positively with the existence of an internal labor market and with high selection standards (Pfeffer and Cohen, 1984; Cohen and Pfeffer, 1986).

Hypothesis 7: The existence of a personnel department will be positively related to the sophistication of personnel practices.

## METHOD

Data were collected via a mailed questionnaire sent to 900 establishments in Singapore. A mailing list was compiled from the membership rosters of the Singapore Institute of Personnel Management, the Singapore Manufacturers Association, and the International Chamber of Commerce. Each establishment received only one questionnaire, addressed to the highest ranking personnel officer employed at that location. Respondents were guaranteed confidentiality, and follow-up letters were sent to non-respondents three weeks after the initial mailing. A total of 174 questionnaires were completed and returned. Given the twelve page length of the questionnaire, the large amount of information requested, and the historically low response to mailed surveys by Singaporean organizations, this 19.3% response rate was gratifying. On the other hand, the representativeness of the responding sample may be suspect. Although the 174 establishments which responded included a wide range of industry types and sizes, it is possible that they were more attuned to human resource management issues than the 726 establishments which did not respond. Their practices may have been more progressive and

homogeneous than those of non-responders. If this type of self selection did occur, it would produce restriction of range which would only serve to weaken the hypothesized relationships. Thus, there is little likelihood that potential sample bias would cause inflated or spurious relationships.

The organizations responding represented a wide cross section of firms. The size of parent firms varied from 5 to 660,000 employees worldwide with a median of 900, while the size of responding establishments varied from 2 to 3000 employees with a median of 137. The most common types of businesses were manufacturing (47 establishments) and financial and business services (34 establishments). Other respondents were involved in engineering and construction (12), international trade (11), retail/hotel/restaurant (10), transportation and warehousing (8), multiple categories of business (18), or other unspecified businesses (34). Seventy-eight of these establishments were part of multi-national firms with headquarters in a western country (United States, Canada, Australia, or a European country), 42 were multi-nationals headquartered in Japan, Singapore, Malaysia, Indonesia, or India, and 48 were local companies with all their establishments in Singapore.

## Dependent Variables

Ten personnel practices were assessed as dependent variables. For many of these variables, information was requested for each of either three or five job categories. Thus, a score could be calculated for each job category and across all jobs combined. The measures of each practice are described below.

Recruiting. Ten recruitment methods were listed, and respondents were asked to check which of these were used at their establishment for each of five job classes (clerical and office; production, maintenance, and service; sales; professional and technical; and managerial). The list of methods appears in Appendix 1. The number of methods used was calculated separately for each job category. In addition, a summary variable was created which represented the average number of methods used across all job classes Coefficient alpha for the the summary measure was .88.

Selection. Sixteen selection methods were listed (see Appendix 1) and respondents checked which ones were used for each of five job classes. Job class and summary scores were computed as described above. Coefficient alpha for the summary measure was .92.

Training. Four types of training provided to new hires were listed (Appendix 1) and respondents checked those offered in their establishment in each of five job

categories. The average number of types provided across all jobs was the summary measure, with a reliability of .89.

Compensation. Respondents indicated for each of three job categories (non-managerial; sales; managerial, professional, and technical) whether or not a formal method of job evaluation was used in setting wage rates. The summary score was the percent of job classes existing in the establishment for which job evaluation was used (because some did not have all three job classes). A second compensation variable focused on the use of contingent pay plans. Respondents indicated wether they had a merit pay system, and whether they used any type of productivity-based payments (piece rate, commissions) for each of three job classes. The summary score was the average number of uses of contingent systems across the three job classes.

Performance Appraisal. Respondents indicated whether or not a formal performance appraisal system was in effect for each of three job classes. The percent of possible jobs for which such a system existed was the summary variable. Establishments having an appraisal system were also asked which of six uses the appraisal date were put to, for three job classes (Appendix 1). The average number of uses across jobs was the summary variable (coefficient alpha = .90).

Internal Labor Market. A ten item scale was used to assess internal labor market (ILM) practices (coefficient alpha = .69). Five of the items were the ILM scale used by Cohen and Pfeffer (1986), while five more were added by the

authors. All items were answered yes or no, and can be found in Appendix 1.

Other Dependent Variables. A single item asked whether or not the establishment maintained written descriptions of jobs performed at that location. Another single item asked whether or not the establishment had a written human resource management philosophy.

Throughout the introduction, we used the term "sophisticated" (also "textbook", "rational", and "bureaucratic") personnel practices. This term can now be operationally defined. High scores on the variables listed above, indicating the use of many recruiting, selection, and training methods, formal job evaluation and performance appraisal, many uses of appraisal data, a well developed ILM, and written job descriptions and HRM philosophy will be considered to represent sophisticated personnel practices. This label seems to fit reasonably well, though it is not the purpose of this study to specifically research the construct validity or appropriate scaling of the idea of sophistication of practices.

## Independent Variables and Analysis Strategy

Five independent variables were used to predict personnel practices via multiple regression. Following the technique developed by Alwin and Hauser (1975) and utilized by Pfeffer

and Cohen (1984; Cohen and Pfeffer, 1986), independent variables sets were entered in successive equations, beginning with those presumed to be the most distal causes of practices, and working up to a full model including those which are more proximal causes and which may themselves be influenced by more distal independent variables. According to Cohen and Pfeffer, (1986, pp 14-15)

> The procedure enables one to assess the relative importance of various independent variables by noting the change in the proportion of explained variance. Even more important, it permits one to assess the extent to which the effects of causally prior variables are direct, spurious, or are mediated by other organizational characteristics associated with them.

The independent variables, in order of their entry into the equations, are described below.

Headquarters Location. This was coded two if the establishment was headquartered in a "western" nation such as the US (48), Australia (2), or Europe (28), and one if the establishment was headquartered in Singapore (66), another ASEAN nation (3), Japan (18), or India (3). The eastern HQ establishments included some purely local Singaporean organizations. Western HQ establishments tended to be larger in total organizational size world-wide than eastern HQ firms. Headquarters location is presumed to be the most distal of the five causes of personnel practices at establishments in Singapore.

Establishment Size. A somewhat more immediate cause of personnel practices would seem to be the number of employees

at the particular establishment. The natural log of number of employees was the variable entered into the second set of regression equations predicting practices.

Technological Change. The rate of technological change at the establishment was entered into the third set of equations. This was assessed by an eight item scale listing changes which could have occured at the establishment recently. Respondents checked all those which had occurred in the last two years. Seven of the eight items on this scale were used by Cohen and Pfeffer (1986). Coefficient alpha in the present study was .67.

Unionization. The fourth variable entered, and one which may conceivably have been influenced by headquarters location, establishment size, and technological change, was the percent of employees belonging to a union at the establishment. Approximately 57% of responding establishments did not have a union and received a score of 0% on this variable.

Human Resource Management Department. The final predictor and presumed immediate cause of many personnel practices was whether or not the establishment had a formally designated human resources management(HRM) or personnel department with at least one professional staff member. Seventy two percent of responding organizations did. This variable logically both affects practices and is affected by the predictors preceding it. In fact, HRM department and the log of estimated size were correlated

.52, bearing out the traditional wisdom that very small establishments do not need (or cannot afford) a full-time personnel specialist.

## RESULTS

Hypothesis one suggested that the same practice would tend to be used across job categories within an establishment. For instance, establishments which require performance appraisal in one category of jobs should also tend to do so for other categories. Table 1 presents the average, minimum, and maximum correlations between the practice scores obtained for different job classes. All correlations are positive and most are quite high, indicating that practices co-occur across jobs as predicted. Organizations tend to use practices such as job evaluation and performance appraisal for all job categories or for none. Even for practices in which job requirements would be expected to predominate over establishment level effects, there is surprising consistency across job categories. For instance, one might expect that clerical and production jobs would require only a few recruiting and selection methods, while procuring professional and managerial employees would call for a wider range of methods. Instead, there is evidence that some companies use a large number of methods and others use relatively few, regardless of job category. This is

consistent with Cohen and Pfeffer's (1986) work on organizational selectivity.

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Insert Table 1 About Here

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The second hypothesis suggested that the sophistication of practices would be similar across practices within an establishment. That is, establishments using formal appraisal may also be likely to offer many types of training, use many recruiting and selection methods, have a well developed ILM, and so on. Table 2 shows the intercorrelations of the ten practices. Values on the main diagonal represent the average correlation of each practice with the other nine. All of these mean correlations are significant and positive, ranging from .19 to .32. This seems to provide some support for hypothesis two, that the sophistication of practices in one area bears some positive relationship to the sophistication of practices in other areas of human resource management within an establishment.

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Insert Table 2 About Here

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Hypotheses three through seven were tested by a series of regression equations on the summary practice variables as

described above. The results of these analyses appear in Tables 3 - 12.

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Insert Tables 3 - 12 About Here

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The number of recruiting methods used was strongly predicted by the log of establishment size throughout the set of equations. Percent of unionization contributed significantly and negatively, suggesting that larger establishments recruit more widely while those with unions use fewer recruiting methods.

Establishment size also predicted the number of selection methods used until technological change entered the equation, indicating that size affects selection primarily because larger establishments tend to have more rapidly changing technology. In the full model, only technological change and having an HRM department were significant, with organizations experiencing rapid technological change and those with HRM departments utilizing a larger number of selection methods.

Both headquarters location and establishment size predicted the number of types of training offered in all equations. Technological change had a weak positive effect on the amount of training while unionization had a weak negative

impact. Both of these effects disappeared with the addition of HRM department to the model. In sum, large, western-based establishments with HRM departments offer more types of training to their employees. The weak and finally nonsignificant effect of technological change is somewhat surprising, as logically this variable should be related to the amount of training needed by new hires.

Turning to compensation practices, only headquarters location and establishment size were related to the use of job evaluation. Large and western-based establishments were more likely to use formal job-based methods of setting pay than smaller or eastern-based establishments. There is a strong tradition of tying pay to age and experience more than to job content in Singapore and other Asian nations, consistent with the lower use of job-based wage determination systems found among eastern headquartered establishments. Performance contingent payment is predicted only by location size, with larger establishments being more likely to use incentive and merit systems. This result may be partly due to the fact that large establishments in this sample were often in manufacturing, where piece rates are more applicable.

Having an HRM department and being a large sized establishment were positive predictors of having a formal appraisal system. Using appraisal data in a sophisticated

manner for a variety of purposes was weakly and positively predicted by headquarters location, establishment size, and technological change. Unionization was expected to be negatively related to both appraisal variables. It did not predict the summary variables, but did contribute negatively to the prediction of appraisal system existance and use of data for non-managerial jobs only, where union impact should be strongest (analyses not shown).

Internal labor market practices were positively predicted by headquarters location, establishment size, technological change, and HRM department. It makes sense that larger establishments would have more positions opening up as well as a larger pool of incumbents from which to find a promotable employee, and so should be more likely to develop ILMs. Technological change also creates opportunities for promotion and makes it more important to keep employees who have developed firm-specific skills, while a personnel department provides the professional support necessary to run an ILM. In Singapore, western-based organizations are perceived as emphasizing quick promotion for good performance and quick termination for poor performance ("up or out"). In contrast, local and Japanese establishments are seen as a more permanent work home in which promotions come slowly (Ditzig, 1987). The relationship between headquarters location and ILM practices as reported by

personnel officers in this study seems to bear out this man-on-the-street perception.

Turning to the practice of maintaining written job descriptions, headquarters location contributed significantly throughout the set of equations. Establishment size was a significant predictor until the final step, when having a HRM department was found to be the mechanism by which size affects this practice. Thus, it appears that western-based establishments with HRM departments are most likely to use written job descriptions. Surprisingly, unionization had no effect on this practice.

Finally, having an HRM philosophy was positively predicted by headquarters location, establishment size, technological change, and having an HRM department. It does seem reasonable that large, western establishments having personnel professionals and experiencing rapid technological change which makes skilled employees an especially critical resource, would be likely to develop a written HRM philosophy. Unionization was significantly and negatively related to HRM philosophy. Perhaps unions and their contracts serve as an alternative kind of "organizational conscience" on HRM issues, making a separate written philosophy unnecessary. Alternatively, a written policy could be an unnecessary constraint on managerial discretion during collective bargaining.

# DISCUSSION

This study set out to look at factors which may be predictive of the adoption of sophisticated or textbook personnel practices in organizations. We found that the five predictors of headquarters location, size, technological change, unionization, and HRM department accounted for from 5.9% to 22.5% of the variance in personnel practices across establishments. Further, as was predicted, there was great similarity in the use of each practice across job categories within establishments, and also some similarity in the level of sophistication across different practices. This is consistent with the idea of an establishment level effect on personnel practices. A summary of the effect of each factor on practices is presented below.

HRM department, the presumed immediate cause of many practices, contributed significantly for six of the ten equations in which it was tested. Establishments with a professional HRM department tended to use more selection methods and offer more types of training, have an ILM and formal appraisal practices, and have written job descriptions and an HRM philosophy. Thus, the hypothesis stating that the presence of an HRM department would be positively related to the sophistication of personnel

practices was largely supported. Note that forming an HRM department may be a result as well as a cause of decisions to adopt sophisticated practices. Similarly, unions may cause practices through collective action, or may be results of past unpopular personnel management practices. Technological change, size, and headquarters location seem much more likely to be unidirectional causes of practices.

Percent of unionization was a fairly weak predictor, contributing to the prediction of only a few practices. Establishments which were more heavily unionized tended to use fewer recruiting and slightly fewer training methods overall. This relationship may be partly an artifact of a third variable--job skill level. Heavily unionized establishments may employ many low skilled workers who are easy to recruit and need only on-the-job training after hire. Even though other job categories at the establishments (such as managers and technical and professional employees) might benefit from more sophicaticated recruiting and training, the relatively small percent of total employees in these categories may make it impractical to develop and implement such practices. Unionized establishments were also less likely to have an HRM philosophy and less likely to use formal performance appraisal for non-managerial jobs.

Unionization did not have an effect on number of selection methods used, compensation practices, the existence of an ILM, or written job descriptions. The results on selection and ILMs are contrary to those of Cohen and Pfeffer (1984; Pfeffer and Cohen, 1986), and are contrary to the hypotheses stated in the introduction. The generally low influence of unions on practices in this sample may be traced to the labor relations system in Singapore. Labor peace is seen as absolutely necessary in order to attract foreign investment in this small, natural-resource poor country. While unionization is officially encouraged, union leaders often hold important government posts, thus helping to harmonize union and government goals for economic development. In addition, legislation severely limits the range of permissable bargaining items, sets maximum limits on benefits, and provides for arbitration rather than strikes. In this labor relations climate, it is not surprising that unions have less impact on personnel practices than they did in the U.S. and Canadian samples of Cohen and Pfeffer (1986) and Dimick and Murray (1978).

Technological change contributed positively to predicting number of selection methods used, ILM practices, and HRM philosophy throughout the sets of equations. It contributed with marginal significance to the prediction of number of training methods used and number of uses made of performance appraisal data, but only before HRM department was added to

the equations. Technological change did not help predict recruiting or compensation practices, having an appraisal system, or having written job descriptions. Thus, the hypothesis stating that technological change would be positively related to the sophistication of personnel practices was only partially supported. As Cohen and Pfeffer (1986; Pfeffer and Cohen, 1984) found, rapid technological change may required careful selection and an ILM to keep skilled workers, but it does not appear to necessitate job evaluation or formal job descriptions. In fact, the latter systems may be harder to maintain in an environment where job content and required skill levels can change quickly in response to changing technologies.

The natural log of location size was the strongest predictor overall, contributing something to the prediction of virtually all practices, and remaining a significant predictor in the full model equations for seven of the ten practices. The results for size in this study are quite similar to those of previous studies. As in Cohen and Pfeffer (1986), size initially predicted selection practices but declined in influence when technological change was entered, indicating that large organizations are more selective as least partly because of the demands of their more rapidly changing technology. Similar to Pfeffer and Cohen's (1984) results, size predicted ILM practices strongly until HRM department was entered, with the latter

seeming to mediate the effect of the former. Finally, as in Dimick and Murray's sample (1978), size was positively related to the number of types of recruiting, selection, and training methods used, and to appraisal system sophistication.

Cohen and Pfeffer (1986) concluded that establishment size was not very important in predicting hiring standards, in that it did not remain significant throughout the equations sets for any of their dependent variables. Rather, its impact was indirect through variables such as technological change or HRM department. This study examined some different personnel practices, and found that size had a strong impact on many of them, even when all other predictors were in the equation. Thus, size does seem to affect practices in its own right. One reason for these differing conclusions may be the sizes of establishments in the two samples. Cohen and Pfeffer's (1986) sample excluded establishments with fewer than 100 employees. The present sample did not, and in fact the median size of establishments was 137 employees. Past research has indicated that personnel departments tend to be formed when establishments grow to between 100 and 200 employees (Wasmuth, Simonds, Hilgert, and Lee, 1970). This seems to be the range in which some formalization of practices becomes necessary, and when it is first economically feasible to appoint a full time human resource manager.

Thus, Cohen and Pfeffer's relatively weak results for size may have been due to restriction of range at a crucial point in the size distribution of their sample.

Headquarters location had a sustained and positive impact on six of the ten practices. As expected, western headquartered establishments used the more bureaucratic practices of job evaluation and written job descriptions. They also provided more types of training, were more likely to have an HRM philosophy and an ILM, and used performance appraisal data for a wider range of purposes than eastern-based establishments. While this study was not designed to be a through investigation of cross-cultural differences in personnel practices, it does seem to suggest that personnel practices characteristic of the headquarters nation tend to be propagated in branch establishments in other countries.

Until recently, both prescriptive and descriptive work on personnel management has focused almost exclusively on the job, rather than the entire establishment. Much has been written on designing selection, appraisal, and training methods most suitable for the content and demands of particular jobs (c.f. Keeley, 1978). At the level of specific selection devices and cutoff scores, appraisal rating scale content, and training program content, this emphasis on the job must remain. However, it is clear that

these practices will also be constrained by establishment level realities such as the five investigated in this study.

The recent writing on "strategic" human resource management has attempted to turn the attention of scholars to these more macro-level influences. For instance, Dyer (1984) suggests that human resource practices should be formulated after carefully considering the organization's strategy, external environment, and internal environment (see also Miles and Snow, 1984). These authors prescribe a level of planning and intentionality which is probably quite rarely found in HRM departments. The consistencies across job categories and across practices observed in the present study were more likely caused by the imposition of common practices for the sake of convenience, or by personnel practitioners attempting to expand their influence and/or fulfill their professional values by creating more sophisticated systems, rather than growing out of a careful consideration of the environment common to all jobs in the establishment. Truly "strategic" human resource management might result in <u>reduced</u> consistency across practices within an establishment, even while acknowledging that practices should be influenced by organizational and establishment level factors. For instance, Miles and Snow (1984) suggest that businesses pursuing a prospector strategy should develop highly sophisticated selection systems, while those following a defender strategy could use very simple

selection methods but should have highly sophisticated training and development programs. Further thought is needed regarding the optimal level of sophistication and differentiation of practices across jobs within establishments, given the constraints imposed by organizational and establishment level factors.

In conclusion, these is evidence that organization and establishment level factors do have some impact on personnel management practices. Most of these effects are in the direction predicted by logic, theory, and past research. However, the fact that systematic influences by macro level factors exist by no means implies that they are functional for the establishments involved. For instance, Hunter and Schmidt (1982) have shown that increased selectivity can have tremendous utility for organizations, while Landy, Farr, and Jacobs (1982) have made similar arguments for the beneficial impact of performance appraisal and feedback systems. Establishments which have foregone these practices because they are small, unionized, or lack a human resource management department may be well advised to reconsider the economics of their decisions.

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## Table 1

### Mean Correlations of Practices Across Jobs

Number of Recruiting Methods Used (5 job categories)
Mean r = .56
Minimum r = .38 (pms with mgr)
Maximum r = .73 (sales with mgr)

Number of Selection Methods Used (5 job categories)
Mean r = .67
Minimum r = .54 (pms with mgr)
Maximum r = .76 (sales with tp)

Types of Training Provided (5 job categories)
Mean r = .63
Minimum r = .33 (pms with mgr)
Maximum r = .77 (sales with mgr)

Use of Job Evaluation (3 job categories)
Mean r = .84
Minimum r = .76 (sales with mtp)
Maximum r = .92 (nm with sales)

Contingent Payment (3 job categories)
Mean r = .61
Minimum r = .57 (sales with mtp)
Maximum r = .65 (nm with mtp)

Performance Appraisal System (3 job categories)
Mean r = .75
Minimum r = .67 (nm with mtp)
Maximum r = .80 (nm with sales)

Uses of Appraisal Data (3 job categories)
Mean r = .77
Minimum r = .66 (nm with mtp)
Maximum r = .88 (sales with mtp)

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co = clerical and office jobs
pms = production, service, and maintenance jobs
sales = sales jobs
tp = technical and professional jobs
mgr = managerial jobs
nm = mon-managerial jobs (co plus pms)
mtp = managerial, technical, and professional jobs

Table 3
Intercorrelations of Variables*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Recruiting Methods | .19 | 25 | .28 | .11 | .21 | .21 | .10 | .28 | .17 | .09 | -.02 | .37 | .20 | -.01 | .25 |
| 2. Selection Methods | | .19 | .30 | .09 | .20 | .20 | .19 | .17 | .14 | .15 | -.01 | .13 | .17 | .13 | .25 |
| 3. Types of Training | | | .32 | .22 | .33 | .29 | .44 | .40 | .23 | .40 | .18 | .33 | .25 | 0 | .41 |
| 4. Job Evaluation | | | | .26 | .26 | .40 | .19 | .36 | .29 | .36 | .22 | .24 | .16 | 0 | .17 |
| 5. Contingent Payment | | | | | .26 | .22 | .24 | .42 | .25 | .27 | .11 | .23 | .17 | .11 | .18 |
| 6. Formal Appraisal | | | | | | .24 | .02 | .26 | .31 | .25 | .03 | .30 | .14 | .05 | .32 |
| 7. Uses of Appraisal data | | | | | | | .22 | .22 | .16 | .20 | .14 | .19 | .20 | -.03 | .21 |
| 8. Internal Labor Market | | | | | | | | .31 | .29 | .30 | .23 | .34 | .33 | .14 | .34 |
| 9. Written Job Descriptions | | | | | | | | | .24 | .26 | .18 | .21 | .14 | .03 | .26 |
| 10. HRM Philosophy | | | | | | | | | | .24 | .24 | .21 | .22 | -.01 | .28 |
| 11. Headquarters Location | | | | | | | | | | | --- | .10 | -.04 | -.03 | .24 |
| 12. LN Size | | | | | | | | | | | | --- | .26 | .35 | .52 |
| 13. Technological Change | | | | | | | | | | | | | --- | .07 | .23 |
| 14. Percent Unionized | | | | | | | | | | | | | | --- | .12 |
| 15. HRM Department | | | | | | | | | | | | | | | --- |

N = 170, values greater than .14 are significant at $p < .05$.

*Underlined values are the average correlation of each practice with the other nine practices.

Table 3

Equations Predicting Number of Recruiting Methods Used

| Variable | Equation 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Western Headquarters | -.04 | -.02 | -.03 | -.03 | -.03 |
| LN Number of Employees | | .35*** | .32*** | .37*** | .32*** |
| Technological Change | | | .09 | .09 | .07 |
| Percent Unionized | | | | -.17** | -.17** |
| HRM Department | | | | | .12 |
| R | .03 | .347 | .359 | .393 | .406 |
| $R^2$adjusted | .00 | .109 | .112 | .133 | .138 |
| F-ratio | .20 | 10.95*** | 7.82*** | 7.22*** | 6.19*** |

* p < .10 ** p < .05 *** p < .01 N = 163

Table 4

Equations Predicting Number of Selection Methods Used

| Variable | Equation 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Western Headquarters | -.01 | -.01 | -.02 | -.02 | -.01 |
| LN Number of Employees | | .16** | .12 | .07 | -.03 |
| Technological Change | | | .17** | .18** | .15* |
| Percent Unionized | | | | .12 | .13 |
| HRM Department | | | | | .20** |
| R | .012 | .160 | .232 | .257 | .308 |
| $R^2$adjusted | .00 | .013 | .036 | .042 | .066 |
| F-ratio | .02 | 2.08 | 2.98** | 2.78** | 3.27*** |

* p < .10 ** p < .05 *** p < .01 N = 162

Table 5

Equations for Number of Training Methods Used

| Variable | Equation 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Western Headquarters | .15* | .16** | .15** | .15** | .16** |
| LN Number of Employees | | .31*** | .28*** | .33*** | .19** |
| Technological Change | | | .14* | .14* | .10 |
| Percent Unionized | | | | -.13* | -.12 |
| HRM Department | | | | | .27*** |
| R | .149 | .348 | .374 | .394 | .454 |
| $R^2$adjusted | .016 | .110 | .123 | .133 | .180 |
| F-ratio | 3.57* | 10.80*** | 8.45*** | 7.10*** | 7.99*** |

* p < .10 ** p < .05 *** p < .01 N = 160

Table 6

Use of Formal Job Evaluation Method

| Variable | Equation 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Western Headquarters | .23*** | .24*** | .22*** | .22*** | .23*** |
| LN Number of Employees | | .27*** | .25*** | .28*** | .25*** |
| Technological Change | | | .11 | .11 | .10 |
| Percent Unionized | | | | -.10 | -.10 |
| HRM Department | | | | | .06 |
| R | .225 | .353 | .370 | .382 | .386 |
| $R^2$adjusted | .045 | .114 | .120 | .124 | .121 |
| F-ratio | 8.45*** | 11.21*** | 8.25*** | 6.62*** | 5.39*** |

* p < .10 ** p < .05 *** p < .01 N = 160

Table 7

Use of Contingent Payment

| Variable | Equation 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Western Headquarters | .10 | .11 | .10 | .10 | .11 |
| LN Number of Employees | | .25*** | .22*** | .20** | .17* |
| Technological Change | | | .12 | .12 | .12 |
| Percent Unionized | | | | .04 | .04 |
| HRM Department | | | | | .07 |
| R | .096 | .264 | .290 | .292 | .300 |
| $R^2$adjusted | .00 | .058 | .066 | .062 | .089 |
| F-ratio | 1.46 | 5.94*** | 4.79*** | 3.64*** | 3.04** |

* p < .10 ** p < .05 *** p < .01 N = 161

Table 8

Existance of Formal Performance Appraisal System

| Variable | Equation 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Western Headquarters | .04 | .05 | .05 | .04 | .06 |
| LN Number of Employees | | .34*** | .32*** | .34*** | .21** |
| Technological Change | | | .09 | .08 | .05 |
| Percent Unionized | | | | -.08 | -.06 |
| HRM Department | | | | | .26*** |
| R | .038 | .337 | .347 | .354 | .416 |
| $R^2$adjusted | .00 | .102 | .104 | .103 | .146 |
| F-ratio | .24 | 10.25*** | 7.26*** | 5.67*** | 6.56*** |

* p < .10 ** p < .05 *** p < .01 N = 163

Table 9

Uses of Performance Appraisal Data

| Variable | Equation 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Western Headquarters | .14* | .16* | .14* | .14* | .14* |
| LN Number of Employees | | .18** | .15* | .20** | .15 |
| Technological Change | | | .15* | .14* | .13 |
| Percent Unionized | | | | -.12 | -.12 |
| HRM Department | | | | | .10 |
| R | .137 | .225 | .267 | .290 | .304 |
| $R^2$adjusted | .012 | .037 | .051 | .058 | .059 |
| F-ratio | 2.70* | 3.77** | 3.58** | 3.20** | 2.80** |

* p < .10 ** p < .05 *** p < .01 N = 144

Table 10

Internal Labor Market Practices

| Variable | Equation 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Western Headquarters | .20*** | .22*** | .20*** | .20*** | .21*** |
| LN Number of Employees | | .34*** | .29*** | .33*** | .17* |
| Technological Change | | | .20*** | .29*** | .18** |
| Percent Unionized | | | | .12 | .03 |
| HRM Department | | | | | .23*** |
| R | .203 | .393 | .441 | .441 | .480 |
| $R^2$adjusted | .035 | .144 | .179 | .174 | .206 |
| F-ratio | 6.84*** | 14.56*** | 12.70*** | 9.48*** | 9.35*** |

* p < .10 ** p < .05 *** p < .01 N = 162

Table 11

Use of Written Job Descriptions

| Variable | Equation 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Western Headquarters | .17** | .18** | .17** | .17** | .18** |
| LN Number of Employees | | .21*** | .19** | .21** | .10 |
| Technological Change | | | .09 | .09 | .06 |
| Percent Unionized | | | | -.04 | -.03 |
| HRM Department | | | | | .21** |
| R | .168 | .271 | .285 | .288 | .336 |
| $R^2$adjusted | .022 | .062 | .064 | .060 | .084 |
| F-ratio | 4.65** | 6.26*** | 4.64*** | 3.54*** | 3.95*** |

* p < .10 ** p < .05 *** p < .01 N = 161

Table 12

Written HRM Philosophy

| Variable | Equation 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Western Headquarters | .25*** | .26*** | .24*** | .24*** | .25*** |
| LN Number of Employees | | .29*** | .25*** | .32*** | .21** |
| Technological Change | | | .19** | .18** | .15** |
| Percent Unionized | | | | -.19** | -.18** |
| HRM Department | | | | | .22*** |
| R | .248 | .385 | .425 | .462 | .499 |
| $R^2$adjusted | .056 | .147 | .165 | .194 | .225 |
| F-ratio | 10.56*** | 13.90*** | 11.69*** | 10.75*** | 10.42*** |

* p < .10 ** p < .05 *** p < .01 N = 163

# Appendix 1

## Questionnaire Items

Recruiting Methods
- Recommendations by employees
- Walk-ins
- Newspapers ads
- Ads in trade magazines
- Ministry of Labor Employment Service
- Private employment agencies and search firms
- Job/career fairs
- Professional societies
- Radio/TV ads
- Signs

Selection Methods
- Reference/record check
- Medical examination
- Work sample test
- Unstructured interview
- Structured interview
- Panel interview
- Job knowledge test
- Mental ability test
- Personality test
- Physical ability test
- Polygraph/honesty test
- Assessment center
- Educational transcript
- Police/immigration check
- Investigation by an employment agency or search firm

Training Offered
- Formal orientation program
- Formal structured in-house training
- Training by outside consultants
- On-the-job training

Uses of Appraisal Data
- Provide feedback to employee
- Determine whom to promote
- Determine whom to punish
- Determine pay increases
- Determine training and development needs
- Conduct personnel research

Promotion Practices (ILM) Scale

Does your location have an established promotion-from-within policy?*
Have most employees with at least five years of service been promoted at least once?*
Does your location fill most jobs from within?*
Does your location frequently promote unskilled workers to semiskilled jobs?*
Does your location frequently promote semiskilled workers to skilled jobs?*
Does your location often promote non-supervisory employees into supervisory positions?
Do performance evaluations include a rating of promotion potential?
Are employees well informed of promotion policies and career ladders within the organization?
Are employees well informed of job openings and encouraged to apply for promotion if they qualify?
Are replacement charts or similar systems used to plan for managerial succession and prepare internal candidates for promotion?

Technological Change

Within the last 24 months, has your location: (check all that occurred)
Built a new location or branch*
Remodeled its facilities*
Installed new equipment*
Modernized existing equipment*
Significantly changes operating procedures*
Eliminated inefficient work procedures*
Changed the basic materials used in production*
Changed products or services

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*These items are from Cohen and Pfeffer, 1986.

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